

ABSTRACT

A multilayer antireflective hard mask structure is disclosed. The structure comprises: (a) a CVD organic layer, wherein the CVD organic layer comprises carbon and hydrogen; and (b) a dielectric layer over the CVD organic layer. The dielectric layer is preferably a silicon oxynitride layer, while the CVD organic layer preferably comprises 70-80 % carbon, 10-20% hydrogen and 5-15% nitrogen. Also disclosed are methods of forming and trimming such a multilayer antireflective hard mask structure. Further disclosed are methods of etching a substrate structure using a mask structure that contains a CVD organic layer and optionally has a dielectric layer over the CVD organic layer.

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